

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Mr. Dale Timmons, General Manager
Asbestos Recycling, Inc.
1221 2nd Avenue North
Kent, Washington 98032

JAN 7 2002

Dear Mr. Timmons:

By this letter and attachment, the National Program Chemicals Division (NPCD) of the U.S. Environmental Protection Agency (EPA) grants ARI Technologies, Inc. (ARI) an approval to demonstrate its mobile polychlorinated biphenyl (PCB) thermal disposal method (Attachment). This approval authorizes ARI to remove and dispose of PCBs from asbestos containing material, soil simulants, soils, absorbents, and other solid and liquid wastes during a demonstration to amend the ARI nationwide PCB disposal approval. Specifically, ARI may operate its mobile ThermoChemical Conversion System (TCCS) to process non-liquid and liquid PCBs at the Tideflats industrial area of Tacoma, Washington. This approval becomes effective on January 11, 2002 and terminates on March 11, 2002. Operations subsequent to the completion of the demonstration test and the termination of this approval will be limited and subject to provisions under Condition 10 (Interim Operations), of this approval.

The ARI PCB Disposal Demonstration shall consist of two phases; the start up phase (shakedown period) and the demonstration phase. During the start up phase, ARI plans to use asbestos containing material (ACM) contaminated with PCBs greater than 50 ppm, or ACM mixed with liquid PCBs. As an option, ARI may inject liquid PCBs directly into the rotary hearth converter. Also non-ACM as a surrogate for ACM, soil or other solid media may be used to demonstrate capability to destroy PCBs.

During the PCB Disposal Demonstration phase, ARI shall perform four to six test runs demonstrating several feed matrices and operating conditions. The company shall sample exhaust emissions during all of the test runs. Any approval that EPA issues to ARI will include a condition for maximum PCB concentration in the waste feed material. EPA will base this condition on the average PCB concentration in the waste feed material disposed during two demonstration runs for each type of matrix treated. Should ARI select not to demonstrate handling of soil or soil simulant matrices, EPA defers approval of soil matrices for treatment in the TCCS to the completion of the demonstration by ARI to destroy PCBs in soil.

At a minimum, ARI must comply with the PCB regulations pursuant to 40 CFR 761.70, including monitoring the exhaust emission for PCBs during all demonstration test runs. For the demonstration, ARI shall sample the exhaust for PCDDs/PCDFs.

HDodohara:hd/OPPT-NPCD-FOB/12-19-02/7404/260-3959/Rm ET837/"DEMPPRM02.wpd"
FOB Chron:Reading File/DS File/Subject File
demonstration approval, asbestos conversion, furnace, interim operation

CONCURRENCES							
SYMBOL	7404	7400	7401				
SURNAME	Dodohara	Simons	KLINE				
DATE	12/9/01	12/9/01	JAN 7 2002				

ARI shall provide splits of representative samples of feedstock for analysis by NPCD from all test runs during the demonstration phase. EPA will collect split samples of treated ACM for analysis to ensure that the material is treated to less than 2 parts per million (< 2 ppm) PCBs. The Agency will collect treated process water samples for analysis to ensure that acceptable treatment level of less than 3 parts per billion (<3 ppb) PCBs is attained.

As a condition in the TSCA nationwide permit, EPA specifies the types of PCB-containing material which can be treated as well as PCB concentration in the feed material. This condition will be based on observations and results from the sampling conducted during the demonstration. In addition, such permit conditions shall include but not be limited to, feed exit temperature, waste feed rate, and waste feed concentration.

After completing the PCB Disposal Demonstration, ARI may continue operations following procedures outlined in Condition 10, Interim Operations, of this approval. Interim Operations (termed Post-Trial Burn Operations under RCRA) are operations after the completion of the Demonstration Test Burn but before a Final Trial Burn Report is reviewed and accepted, or before the TSCA PCB Disposal Approval is issued. ARI will implement Interim Operations only after it has completed an operationally successful PCB Disposal Demonstration and has submitted PCB analytical data from the TSCA Demonstration phase and confirmed a minimum DRE of 99.9999%. An operationally successful demonstration must include a minimum of three runs. Each run must be a minimum of four hours in length. During any test run, there shall be no more than a total of two hours when the feed is shut off. Testing must be conducted once a variety of conditions, including but not limited to feed concentration or process temperature has been established. At least two runs must be conducted for each condition. ;

The ARI TCCS process is described in documents submitted to NPCD entitled "Demonstration Test Plan," dated June 23, 1998; "Operating Permit Application" dated August 28, 1998; and in subsequent submissions.

EPA representatives and their contractor will be on site during the demonstration phase to observe procedures and to verify the results of the test runs. ARI shall perform at least three complete test runs for the scheduled demonstration phase.

Quality Assurance (QA) spiked PCBs or Aroclor samples may be submitted by EPA representatives to the laboratory designated by ARI to conduct chemical analyses of samples collected at the demonstration phase, or to other entities selected by ARI to conduct chemical analyses of samples from the demonstration phase. ARI must determine the PCB concentration of each sample using analytical instrumentation in its designated laboratory(s).


After the demonstration phase, ARI will collect and assemble all test results into a Process Demonstration Test Report (Attachment) and submit the results to the NPCD, for evaluation. When the evaluation is complete, and if the data are determined to be acceptable, EPA will issue ARI Technologies, Inc. a nationwide PCB disposal approval to treat material containing PCBs, solid PCBs, and liquid PCBs at the concentration of PCBs successfully destroyed in this PCB Disposal Demonstration.

ARI may claim any information submitted to be confidential business information in accordance with EPA regulations at 40 CFR §2.203(b). Such information must be clearly marked "Confidential" and ARI must also submit a sanitized version of the information at the time the claim of confidentiality is made. Failure to assert a claim of confidentiality shall constitute a waiver, and any information submitted may be released without prior notice to ARI.

The nationwide approval contains financial assurance requirements at 40 CFR Part 761.65(g), applicable to the ARI TCCS processing equipment and to the operating arena but not applicable to the remediation site. ARI must file with NPCD documentation of compliance with the requirements at §761.65(g) prior to initiation of any commercial operations disposing of waste regulated for disposal under the Toxic Substances Control Act.

If you have any questions regarding this matter, please contact Hiroshi Dodohara at (202) 260-3959.

Sincerely,



David J. Kling, Acting Deputy Director
Office of Pollution Prevention and Toxics

Attachments

cc: Dan Duncan
USEPA Region X

Cathy Massamino
USEPA Region X

Kathy Johnson
USEPA Region X

Gerry Sherell
US PSNS, Bremerton, WA

Bob Cipra
US PSNS, Bremerton, WA

Claude Williams
PSAPCA, Seattle, WA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Approval to Demonstrate the Dispose of Polychlorinated Biphenyls (PCBs)

COMPANY

Asbestos Recycling, Inc.
1221 2nd Avenue North
Kent, Washington 98032

APPROVAL TYPE

Demonstration Test

DEMONSTRATION SITE

Tideflats industrial area
Tacoma, Washington

EFFECTIVE DATE

This approval becomes effective January 1, 2002 and terminates March 1, 2002. ARI shall cease all operations upon termination of this approval. Operations subsequent to termination of this approval will comply with provisions of Condition 10, Interim Operations.

AUTHORITY

This approval to perform a demonstration test for PCB disposal is issued pursuant to Section 6(e)(1) of the Toxic Substances Control Act of 1976, Public Law No. 94-469, and the Federal PCB Regulations, 40 CFR Part 761.60(e), (48 Federal Register, 13185, March 30, 1983).

CONDITIONS OF APPROVAL

1. Advance Notification: A thirty-day advance notification of the Demonstration Test must be provided to the EPA Regional Administrator and the State and local officials where the Asbestos Recycling, Inc. ThermoChemical Conversion System (TCCS) mobile unit will be used. This notice must include the exact site, date, and entity using the process along with an estimate of the length of stay at the site. A copy of the notice shall be submitted to EPA Headquarters.
2. Feedstock Restrictions: The ARI TCCS mobile unit shall be used to treat non-liquid PCBs. Liquid PCBs may be mixed with waste material or direct fired to the rotary hearth converter for the two phases of the ARI PCB Disposal Demonstration. The quantity of PCBs to be processed will be limited to that required to complete the initial Shakedown period and the Demonstration Test. The feedstock ARI intends to treat is asbestos containing material (ACM) or other non-

ACM material that is a suitable surrogate for ACM, soil or other media. ACM encompasses material such as pipe lagging, metal strapping, sheet metal, heavy metal paint coating, asbestos cement board, and vinyl asbestos tile. Non-ACM material encompasses silica and clay absorbents, such as DriSorb, non-ACM pipe lagging, or other predominantly inorganic materials having absorbent and physical properties similar to that of soil and ACM. The feedstock may also contain variable PCB solids, solid PCBs comprised of wool felt matrix, liquid PCB as spiking material or direct feed to the converter, cellulose absorbent, soil simulant clays, and mineralizing agent solution.

For the start up phase (Shakedown period), EPA limits the quantity of PCB-contaminated material to 200 cubic yards. For the start up operations, ARI shall process ACM material, and shall conduct up-to two documented tests with greater than 50 ppm PCBs, or ACM mixed with liquid PCBs. As an option, ARI may inject liquid PCBs directly into the rotary hearth converter. To prepare for the Demonstration, ARI shall treat non-liquid or liquid PCBs at approximately the concentration (ca. 200,000 ppm) to be demonstrated.

Prior to treatment, the PCBs must be characterized for Aroclor type and concentration. The PCBs must be sampled and analyzed by gas chromatography for PCBs in accordance with the ARI demonstration plan and procedures published by EPA:

"Guidelines for PCB Destruction Permit Applications and Demonstration Test Plans for PCB Incinerators," May 28, 1986;

Quality Assurance and Quality Control Procedures for Demonstrating PCB Destruction in Filing for an EPA Disposal Permit," USEPA, June 28, 1983 (Draft);

"Recommended Analytical Requirements for PCB Data Generated On Site During Non-Thermal PCB Destruction Tests", USEPA, March 19, 1986 (Draft); and

"Interim Guidelines and Specifications for Preparing Quality Assurance Plans", QMS-005/80, Office of Research and Development, USEPA, December 29, 1980.

Authorized EPA representatives must witness this demonstration and obtain appropriate split samples for verification of analytical results. ARI may conduct whatever additional analyses are necessary to characterize the waste feed and facilitate more efficient pyrolysis (i.e., chloride content, ash content and heat of combustion/formation).

ARI may dilute or add PCBs to the waste feed in order to achieve an appropriate PCB concentration for demonstration purposes.

3. Storage of PCBs: ARI intends to ship liquid PCBs from a permitted commercial storage facility to the PSNS for storage and disposal during the PCB Disposal Demonstration Test Burn. ARI may store for disposal, PCBs and PCB Items at concentrations of 50 ppm or greater subject to the following conditions:

- a. Storage in a Facility Complying with 40 CFR 761.65(b)(1): Pursuant to this demonstration approval, ARI may
- (1) store, at any one time, PCBs and PCB Items in quantities up to 500 liquid gallons, or combined liquid and non-liquid PCBs up to ten 55-gallon drums and is not subject to the PCB Commercial Storage approval requirements at 40 CFR 761.65(d), or
 - (2) store PCBs and PCB Items in quantities greater than 500 liquid gallons, or combined liquid or non-liquid PCBs up to ten 55-gallon drums and is subject to the PCB Commercial Storage approval requirements at 40 CFR 761.65(d). These requirements include, in part, the submission of: a closure plan, a closure cost estimate, and financial assurance for closure.
- b. Storage in Facilities which Comply with 40 CFR 761.65(b)(2): Pursuant to this demonstration approval, ARI may store PCB and PCB Items in a facility which is:
- (1) permitted under EPA under Section 3004 RCRA or has achieved interim status under Section 3005 of RCRA,
 - (2) permitted by a State authorized under Section 3006 of RCRA,
 - (3) approved or regulated under a State PCB waste management program no less stringent than the requirements at found in this Part,
 - (4) subject to a TSCA Coordinated Approval pursuant to 40 CFR 761.77 which includes provisions for PCB storage, or
 - (5) permitted under a TSCA waste management approval pursuant to 40 CFR 761.61© and 761.61(c).
- c. Storage in an Area which Does not Comply with 40 CFR 761.65(b): Pursuant to this demonstration approval, ARI may temporarily store for not more than thirty days the following PCB Items in a facility which does comply with provisions under 40 CFR 761.65(b) provided that a notation is attached to the PCB Item or a PCB Container continuing the PCB Item indicating the date the item was removed from service or generated as a waste,
- (1) Non-Leaking PCB Articles and PCB Equipment,
 - (2) Leaking PCB Articles and PCB Equipment provided the items are placed in a non-leaking PCB container that contains sufficient sorbent material to absorb remaining liquid PCBs in the item,

- (3) PCB Containers containing non-liquid PCBs such as contaminated soil, rags and debris,
 - (4) PCB containing liquids PCBs at concentrations of ≥ 50 ppm, provided a Spill Prevention, Control and Countermeasure Plan has been prepared for the temporary storage area in accordance with part 112 of this chapter and the liquid PCB waste is in Packaging authorized in the DOT Hazardous Material Regulations at 40 CFR Parts 171 through 180 or stationary bulk storage tanks (including rolling stock such as, but not limited to, tanker trucks, as specified by DOT.
- d. Any PCB material not disposed of or meeting the destruction efficiency criteria under this demonstration approval shall be disposed of at EPA approved facilities, or ARI may elect to dispose of the remaining PCB material following disposal procedures outlined in Condition 10, Interim Operations.
4. EPA Laboratory Audit: EPA may provide samples of PCBs in test matrices in order to test the adequacy of analytical methods employed by ARI or its agent. EPA will inform ARI of the approximate range of PCB concentration and the identity of the test matrix, if such samples are provided. ARI or its agent must determine the concentration of the test material during the regular Demonstration period, and provide EPA with all chromatogram, calculations, and records regarding analysis. EPA personnel may observe all or any portion of the analytical procedures.
5. Process Restrictions: The ARI TCCS mobile unit shall operate under the following conditions
- a. A minimum of 2-second dwell time at 1000 deg. C (± 100 deg. C) and 3 percent excess oxygen in the stack gas;
 - b. Combustion efficiency shall be at least 99.9 percent.
 - c. The rate and quantity of PCBs which are fed to the combustion system shall be measured and recorded at regular intervals of no longer than 15 minutes.
 - d. The temperatures of the incineration process shall be continuously measured and recorded. The combustion temperature of the incineration process shall be based on either direct (pyrometer) or indirect (wall thermocouple-pyrometer correlation) temperature readings.
6. Exhaust Emissions Monitoring: Monitoring of the exhaust emission shall be conducted during sampling operations for the following parameters:
- a. Oxygen, O₂ (continuous)
 - b. Carbon monoxide, CO (continuous)
 - c. Carbon dioxide, CO₂ (continuous)
 - d. Hydrochloric acid, HCl;

- e. PCBs
 - Samples of the exhaust gas shall be collected and analyzed for PCBs during the PCB Disposal Demonstration.
- f. Total particulate matter;
- g. PCDDs and PCDFs
 - 2,3,7,8-tetrachlorodibenzo-p-dioxin and 2,3,7,8-tetrachlorodibenzofurans
 - total tetrachlorodibenzo-p-dioxin and tetrachlorodibenzofuran
 - total polychlorodibenzodioxins and polychlorodibenzofurans
- h. Volatile and Semi-Volatile Organics;

Emissions of PCBs, PCDD and PCDF must be reported in emission rate and in concentrations.

7. Process Waste Characterization: Liquid waste from the water holding/treatment system must be analyzed for PCBs. All process non-aqueous liquid and solid waste exhibiting a level of PCB above 2 ppm chromatographic peak and aqueous waste above 3 ppb PCBs must be disposed of as if it contained the PCB level of the feedstock. Sampling of the solid and liquid wastes should be performed at the termination of a demonstration test run or at the termination of the demonstration tests.

8. Pollution Control Equipment: An induced draft system captures the gas discharge from the TCCS, exposing the gas to a quench system and a filtration system. The pollution control system shall be operated whenever PCBs are being treated. ARI shall not dispose of the quench effluent prior to analysis of fluid samples for PCBs. ARI must comply with all Federal, State and local regulations.

Quench effluent exhibiting PCBs over 3 ppb per peak must be disposed of in an EPA-approved incinerator or an EPA-approved alternate treatment process.

9. Successful Trial Runs: A minimum of three successful trial test runs total must be completed for the demonstration. At least two runs at maximum test conditions must be completed for each media or each operating condition. A successful trial test run is defined as one in which operations were continuous without significant interruptions and one in which sampling of the exhaust emission was representative and adequate to achieve removal of PCB to a 99.9999% level in the exhaust emissions, and all "products" to be below 2 ppm PCBs for solids and below 3 ppb for aqueous fluids. PCB analysis showing Aroclor patterns shall be reported as total PCBs, otherwise, the results will be reported for individual PCB congener peaks.

10. Interim Operations: Disposal operations after the TCCS TSCA Trial Burn will continue, contingent upon successful completion of procedures outlined in Item 10.a below. Interim Operations are operations after the completion of the Demonstration Test Burn but before a Final Trial Burn Report is reviewed and accepted, or before the TSCA PCB Disposal Approval is issued.

a. Approval Conditions

(1) An operationally successful PCB Disposal Demonstration shall be completed. The operationally successful Demonstration must include a minimum of three, four-hour (minimum) runs total of continuous feed or when a variety of conditions are demonstrated, at least two runs for each feed type, concentration or operating conditions. There shall be no more than a total of two hours when the feed is shut off.

(2) The following data from Demonstration shall be submitted to EPA.

A. all PCB analytical data needed to calculate the DRE;

B. all Polychlorinated dibenzofuran data and all Polychlorinated dibenzo-p-dioxin data needed to calculate total 2,3,7,8-tetrachlorodibenzo-p-dioxin equivalents (TEQ);and

C. all volatile and semi-volatile organic emission data.

D. Each test in the Demonstration shall demonstrate a minimum PCB DRE of 99.9999%, and

E. each test in the Demonstration shall demonstrate a maximum TEQ of 1 nanograms per dry standard cubic meter of emissions, adjusted to 7% excess oxygen.

F. No more than fifteen calendar weeks following the completion of the PCB Disposal Demonstration, the complete TSCA Disposal Demonstration Report shall be received by EPA.

b. This phased interim operations shall not begin if the PCB Disposal Demonstration completion requirement [condition 10.a.(1)] has not been met. If Conditions 10.a.(2).D is met, interim operations may begin and continue for four calendar weeks. If the requirements in condition 10.a.(2).E is not met, interim operations shall cease. If the requirements in condition 10.a.(2).E is met, interim operations may continue for another seven weeks. If the requirements in condition 10.a.(2).F are not met, interim operations shall cease. If the requirements in condition 10.a.(2).F is met, operations may continue unless EPA issues a cease order based on review of the PCB Disposal Demonstration Final Report.

The interim operations procedure is summarized below.

<u>Phase</u>	<u>Parameters</u>	<u>Criteria</u>	<u>Interim Operations After Completion of Demonstration</u>	<u>Cumulative Weeks of of Interim Operations</u>
(1)	PCB data from PCB Disposal Demonstration	99.9999% removal < 2 ppm (non-aqueous) < 3 ppb (aqueous)	four weeks	four weeks
(2)	PCDD TEQ emissions volatiles, semi-volatiles data	< 1 ng/m ³	seven weeks	eleven weeks
(3)	Demonstration Final Report to EPA	Acceptable Report	continue to permit issuance	

11. Secondary Containment Restrictions: If liquid PCBs are to be handled on site, secondary containment system for the processing area will be installed to ensure inadvertent releases of PCBs and PCB-related hazardous waste into the environment do not occur. All fluids accumulating in the process area containment shall be sampled and analyzed for PCBs and must meet the SPDES effluent limits prior to discharge.

12. Recordkeeping and Operations Log: ARI shall collect and maintain for a period of five years from the date of the demonstration, the following information:

- A. Continuous and short interval data described below:
 - 1) Quantity of PCBs Treated;
 - 2) Exhaust emissions, including oxygen, carbon monoxide and carbon dioxide.
- B. Data and records on the monitoring of exhaust emissions as required by these conditions.
- C. The total weight in kilograms of any solid residues generated by the treatment of PCBs during the demonstration, and the total weight in kilograms of any solid residues disposed of.
- D. The name and address of each client whose PCB waste was processed by the TCCS unit.
- E. The type and amount of PCBs and other raw materials treated.

- F. A copy of each gas chromatogram from the tests required by Condition 2.
- G. The date(s), time and duration of the demonstration.
- H. The name, address and telephone number of the operator and supervisor.

The documents must be compiled within 60 days following completion of the demonstration, must be kept at one centralized location, and must be available for inspection by authorized representatives of the EPA upon request. ARI or its authorized agents must also maintain the records required by 40 CFR 761.180. If ARI or its agents terminate business, these records or their copies must be submitted to the Director, National Program Chemicals Division, OPPT.

13. Process Failure: If the quality control testing as described in the demonstration plan and the EPA guidelines reveals that the PCBs are not being adequately removed and destroyed, disposal activities may be ordered to cease until adequate explanation is given and corrective measures are taken. A written report detailing the problem and solution shall be filed with the EPA within five business days.

14. PCB Releases: In the event ARI believes, or has reason to believe, that a release of PCBs has or might have occurred, the facility operator must inform the EPA immediately.

A written report describing the incident must be submitted by the close of business on the next regular business day. No PCBs may be processed in the facility until the release problem has been corrected to the satisfaction of the EPA.

15. PCB Spills: Any spill of PCBs or other oils shall be promptly controlled and cleaned up as provided in ARI's Spill Prevention, Control and Countermeasures Plan. In addition, a written report describing the spill, operations involved and clean-up actions must be submitted to the EPA within five business days.

16. Facility Security and Safety: ARI must take all necessary precautionary measures to ensure that operation of the TCCS is conducted in compliance with all applicable safety and health standards, as required by Federal, State, or local regulations and ordinances. The test site shall be secured (e.g., fence, alarm system, etc.) to ensure that only those individuals participating in the demonstration and authorized visitors are allowed in the approved areas.

Any accident or personal injury occurring as a result of the ThermoChemical Conversion System unit must be reported to the EPA by the next business day. A written report describing the accident must also be submitted within five business days.

17. Reporting Requirements: Any notification of EPA required by Conditions 13, 14, 15, or 16 shall be submitted by telephone to the Fibers and Organics Branch (202-260-3933) within the time frame specified. In addition, ARI shall file a written report with the Director of the National Program Chemicals Division (7404), Office of Pollution Prevention and Toxics, 1200 Pennsylvania Avenue, Washington, D.C. 20460 within the specified time frame.

18. PCB Off-Site Transport: PCB waste may not be transported off-site, except for proper disposal in accordance with 40 CFR 761.60. All PCBs not utilized in the test burn, e.g. spiking solutions, shall upon completion of all testing, be disposed of in accordance with 40 CFR Part 761. PCB-contaminated equipment on the TCCS unit may be transported off-site in accordance with the U.S. Department of Transportation (DOT) requirements of 49 CFR Part 172. Such requirements include placarding the TCCS unit if the equipment is not decontaminated prior to leaving the site.

19. Severability: The conditions of this approval are severable, and if any provisions of this approval or any application of any provision is held invalid, the remainder of this approval shall not be affected thereby.

20. Other Approvals/Permits: No operation may commence until ARI has obtained all necessary approvals/permits from Federal, State, and local agencies. ARI is responsible for obtaining such approvals/permits where appropriate.

21. Other Regulations: This approval to dispose of PCBs does not relieve ARI of its responsibility to comply with all applicable Federal, State, and local laws and regulations. Violation of any applicable Federal regulations will make ARI subject to enforcement action, which may include termination of this approval. This approval may be rescinded at any time for failure to comply with the terms and conditions herein, or for any other reasons which EPA deems necessary to protect health and the environment.

22. Compliance Responsibility: ARI shall be responsible for any authorized ARI operator and shall assume full responsibility for any failure to comply with all applicable Federal, State, and local laws and regulations, including the conditions of this approval.

23. EPA Inspection: EPA reserves the right for its employees or agents to inspect and test ARI personnel, procedures, and equipment. EPA reserves its right to suspend terminate ARI PCB disposal activities at any time.

24. Deviation from Demonstration Plan: Any deviations from the conditions of this approval or the terms expressed in the application/demonstration test plan from ARI, must receive authorization by EPA. Verbal authorizations by EPA representatives on site must be followed within ten working days by a written modification to the demonstration plan. In this context, "demonstration plan" shall be defined as all data and materials which have been received by this Agency from ARI regarding the ARI TCCS mobile process.

25. Demonstration Approval and Conditions: EPA reserves the right to impose additional conditions when it has reason to believe that the continued operation of the TCCS unit presents an unreasonable risk of injury to health or the environment, or for any other reason it deems valid. Any such proposed additional conditions shall be preceded by reasonable advance notice to ARI and opportunity for ARI to comment on the proposed modifications.

Approval to conduct a disposal demonstration of PCBs is hereby granted to Asbestos Recycling, Inc. of Kent, Washington, subject to the findings and conditions expressed herein, and consistent with the materials and data included in the permit application and demonstration plan filed by ARI. This approval is valid for operations at the Puget Sound Naval Shipyard, Bremerton, Washington.

JAN. 7, 2002

Date

A handwritten signature in black ink, appearing to read 'David J. Kling', written over a horizontal line.

David J. Kling, Acting Deputy Director
Office of Pollution Prevention and Toxics

APPENDIX 1

BACKGROUND

TSCA DISPOSAL

Section 6(e)(1)(A) of the Toxic Substances Control Act (TSCA) requires that EPA promulgate rules for the disposal of Polychlorinated biphenyls (PCBs). The rules implementing section 6(e)(1)(A) were published in the Federal Register of May 31, 1979 (44 FR 31514) and recodified in the Federal Register of May 6, 1982 (47 FR 19527). Those rules require, among other things, that various types of PCBs and PCB Articles be disposed of in EPA-approved landfills (40 CFR 761.75), incinerators (40 CFR 761.70), high efficiency boilers (40 CFR 761.60), or by alternative methods (40 CFR 761.60(e)) that demonstrate a level of performance equivalent to EPA-approved incinerators or high efficiency boilers. The May 31, 1979 Federal Register also designated Regional Administrators as the approval authority for PCB disposal facilities.

On March 30, 1983, EPA issued a procedural rule amendment to the PCB rule (48 FR 13185). This procedural rule change transferred the review and approval authority of mobile and other PCB disposal facilities that are used in more than one region to the Office of Pesticides and Toxic Substances (OPTS). The purpose of the amendment is to eliminate duplication of effort in the regional offices and to unify the Agency's approach to PCB disposal. The amendment gives the Assistant Administrator Office of Prevention, Pesticides and Toxic Substances (OPPTS), authority to issue nationwide approvals (i.e., approvals which will be effective in all ten EPA regions) to mobile and other PCB disposal facilities that are used in more than one region. The Assistant Administrator delegated this approval authority to the Director of the Office of Pollution Prevention and Toxics (OPPT). Approval authority has since been further delegated to the Director of the National Program Chemicals Division (NPCD).

FINDINGS

1. The ARI ThermoChemical Conversion System (TCCS) is a mobile treatment unit to dispose of non-liquid and liquid PCBs. The TCCS removes PCBs from contaminated Asbestos Containing Material (ACM), PCB soils (simulants demonstrated), contaminated solids, and liquids. Components of the TCCS include the following

- Rip Shear Shredder
- Auger Mixer
- Feed Hopper
- Asbestos Converter

- Secondary Combustion Chamber
- Afterburner
- Air Pollution Control System
- Ancillary Equipment

2. Process Operations: Bags of Asbestos Containing Material (ACM) from steel bins travel via an interlocked conveyor system to a shredder. The shredded material drops into a blender-mixer screw conveyor where a demineralizing agent is introduced. Next, a briquette machine transforms the ACM into densified briquettes which advance to the rotary hearth converter. Feeds with high liquid concentrations and dense ACM such as asbestos cement board are not densified through briquetting and travel directly to the hearth. The converter maintains a negative pressure of -0.5 inches w.c. and temperatures ranging from 2000°F to 2400°F. Clay, soils, and inert feed solids can be processed along with ACM. The treated ACM, termed asbestos free material (AFM) discharges from the converter through a screw conveyor, and quenched with potable water. Process end product is stored in sealed bins until analysis confirm that the AFM is asbestos free and that PCB levels, should they be present, are below 2 ppm. The operations trailer, which houses the shredder, mixer, briquette machine and the rotary hearth; as well as the end product storage bins are maintained under negative pressure and vented through HEPA filters. The negative pressure precludes fugitive emissions and establishes the operations trailer as an approved ACM abatement containment chamber with pressure interlocks.

3. Air Pollution Abatement System: Gas from the rotary hearth converter flow into a secondary combustion chamber (SCC). The SCC maintains a temperature range of 2200°F to 2450°F and a minimum of one percent excess oxygen. Exhaust from the SCC is oxidized further in the afterburner which maintains a temperature range of 2200°F to 2450°F and a minimum of three percent excess oxygen. The exhaust gas from the afterburner is quenched to a temperature of 250°F and enters an absorber chamber for acid removal followed by a venturi scrubber for particulate removal. The exhaust gas is further cooled and passed through a prefilter and a HEPA filter prior to discharge to the atmosphere via the induced draft fan.

4. The ARI mobile ThermoChemical Conversion System (TCCS) is designated a PCB thermal disposal process. ARI must demonstrate the TCCS to be equivalent to a 40 CFR 761.70 incinerator.

5. The ARI TCCS must demonstrate to meet or exceed the operating performance criteria for incineration of PCBs under 40 CFR 761.70. Incinerators meeting these criteria have been shown not to present an unreasonable risk to human health or the environment. The currently accepted performance level for EPA-approved incinerators is 99.9999% destruction and removal efficiency (DRE) for PCBs.

4. Many of the TCCS unit operating parameters are computer controlled. Should a malfunction occur, the TCCS unit is designed to automatically shut down. In addition, a shutdown sequence may be initiated by manual activation.

5. Due to the design aspects, operating parameters, and safety measures, EPA finds that a demonstration of the ARI TCCS system is identical to a demonstration of a 40 CFR 761.70 incinerator and that the demonstration does not pose an unreasonable risk of injury to health or the environment.